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United States
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Region 5
230 South Dearborn Street
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Superfund Fact Sheet

Hagen Farm Site
Dunkirk, Wisconsin

July 1988

LONG TERM INVESTIGATION BEGINS AT HAGEN FARM SITE

The United States Environmental Protection Agency (U.S. EPA) recently approved the work plan for a long-term study of the Hagen Farm Superfund site in Dunkirk, Wisconsin. Waste Management of Wisconsin, Inc. (WMI) and Uniroyal Plastics Company, Inc., identified as parties potentially responsible for contamination problems at the site, will conduct the study under the guidelines and supervision of U.S. EPA and the Wisconsin Department of Natural Resources (WDNR). WMI and Uniroyal agreed under a **consent order** in November 1987 to conduct the study, called a remedial investigation and feasibility study (RI/FS). The field work phase of the RI/FS is expected to begin this month. (Words in **bold** are defined in the glossary on on the back page.)

During the RI/FS, WMI, Uniroyal and their consultant, Warzyn Engineering, will identify the types and concentrations of chemical contaminants present at and near the site; define potential pathways by which contaminants may move through the environment; evaluate the risk to human health and environment posed by the site, and evaluate options for resolving any site contamination problems.

This fact sheet provides background information about the site and explains how the RI/FS will be conducted. Sources of additional information are provided on the back page, under "For More Information. "U.S. EPA will hold a public meeting to discuss the Hagen Farm site and the Superfund program on Thursday, July 14, 1988 at 8 p.m. The meeting will be held at the Dunkirk Town Hall, County Trunk Highway N, near Stoughton, Wisconsin.

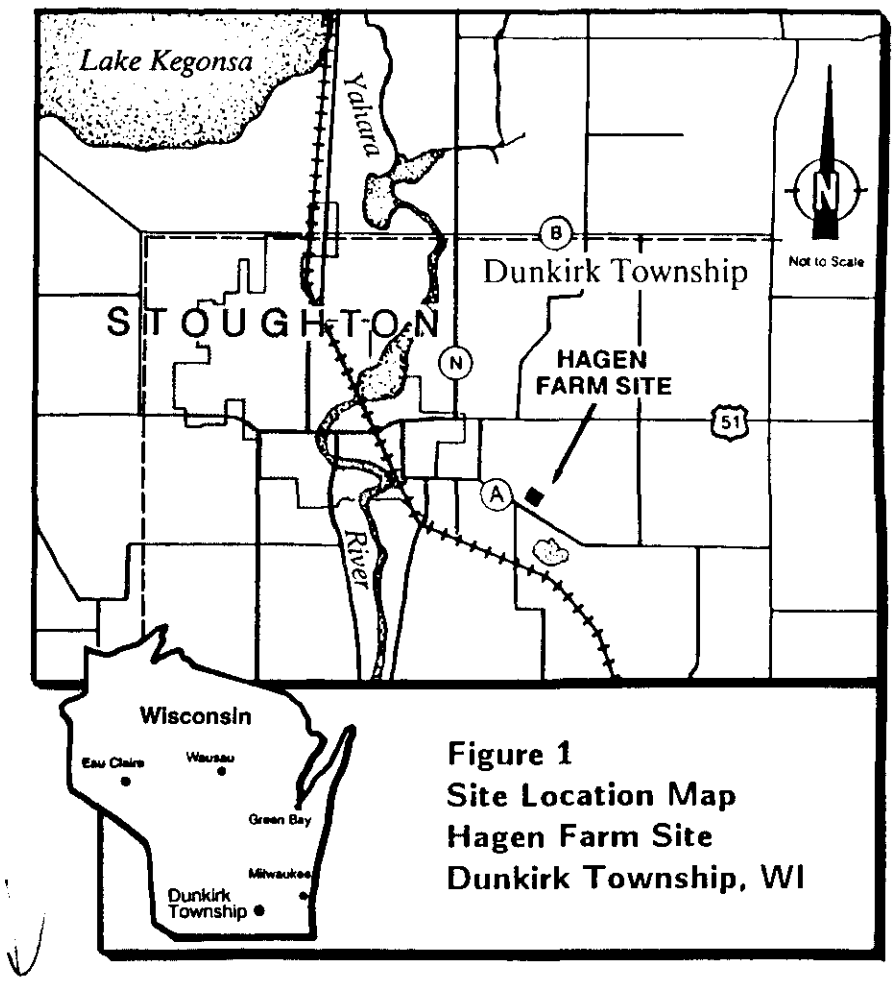

Figure 1
Site Location Map
Hagen Farm Site
Dunkirk Township, WI

SITE BACKGROUND

The Hagen Farm Superfund site occupies about five acres at 2318 County Highway A, approximately one mile east of Stoughton, Wisconsin (Figure 1). The site consists of one main disposal area and two smaller areas, located in a former gravel quarry. The Stoughton Airfield is located near the northwest corner of the site. The City of Stoughton municipal wells are located about two miles to the west, and eight private wells are located within 1,200 feet of the site. Several of the private wells are no longer in use. Approximately 350 people reside within one mile of the site.

A WMI subsidiary company, City Disposal Corporation, transported wastes from Uniroyal Plastics, Inc. to the site from 1962 to 1966. The wastes included solvents and other chemicals, and chunks of solid vinyl. WDNR records indicate that the City of

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TABLE 1
SITE INVESTIGATION ACTIVITIES

ACTIVITY	DESCRIPTION
Geophysical Investigation	Electromagnetic instruments will be used to identify the location of wastes buried below the ground surface so that the boundaries between disposed waste and natural soils can be determined.
Soil-Gas Survey	The disposal area will be tested for the presence of concentrated sources of VOCs. Probes will be driven into the ground to collect VOC vapors which will then be analyzed in a laboratory. The purpose of this activity is to locate potential sources of VOCs within the waste disposal areas.
Leachate Study	Leachate will be sampled from wells installed in the waste. Liquid waste will be collected and analyzed for VOCs and other chemical contaminants. Vapors will also be collected and analyzed for VOCs.
Soil Study	Soil samples will be collected from 10 locations at and near the site to characterize the properties of site soils which might affect the migration of contaminants in the soil. The soil studies also will determine whether the properties of site soils could help prevent the migration of potential contaminants.
Ground Water Study	Newly installed and existing monitoring wells will be sampled to determine the direction and rate of ground water flow at and near the site.
Surface water/sediment	Surface water drainage and runoff patterns will be evaluated to determine whether surface water provides a potential route for the migration of contaminants from the site.
Air	Local air conditions will be evaluated at the site to characterize weather patterns and evaluate air as a potential contamination pathway. Air samples will be collected and analyzed for VOCs.
Contaminant Characterization	Air, soil, ground water, and surface water and sediment will be sampled from locations identified along potential contaminant pathways of concern. The objective of this activity is to determine the extent and nature of contamination at the Hagen Farm site.

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

U.S. EPA AND WDNR recently approved the work plan for the RI, and field work for the study is expected to begin shortly.

The objectives of the RI are to:

- ★ Identify the types and sources of potential contamination;
- ★ Identify the routes by which, and the rate at which, contaminants may migrate from the site;
- ★ Characterize the physical properties of the site which might affect the way in which potential contamination is addressed;
- ★ Gather data adequate to determine the risk to public health and environment posed by the site, and to evaluate alternative remedies for addressing potential contamination.

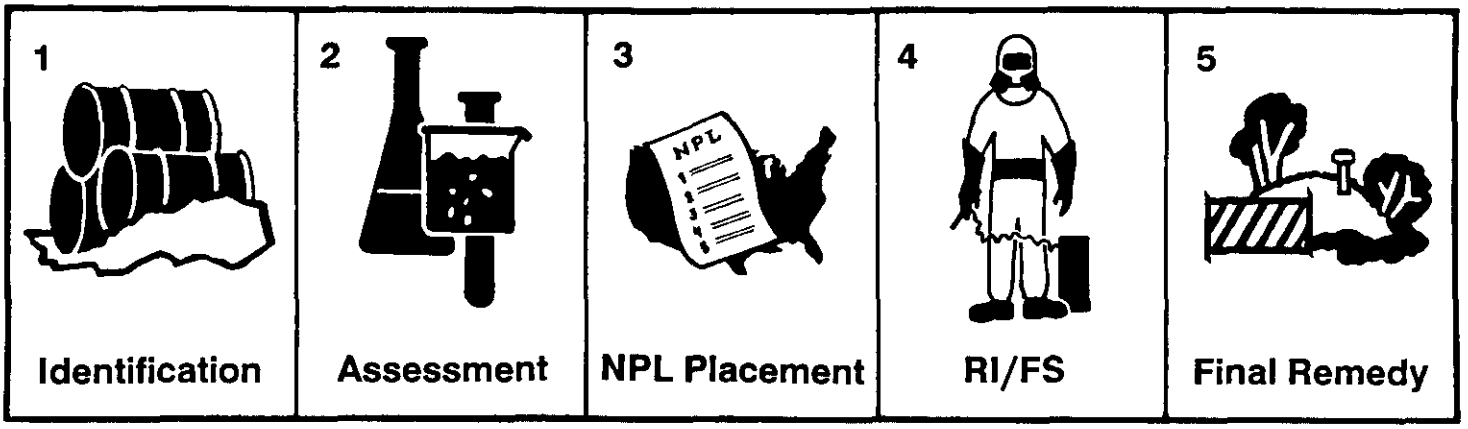
The RI will be conducted in several parts. The first part of the investigation will define the site boundaries and identify potential contamination sources. Soil, air, ground water, surface water and sediment also will be evaluated as potential migration routes or pathways.

The extent and nature of potential contamination in air, soil, ground water, surface water and sediment at and near the site will be determined during the second part of the study. Samples will be collected from locations along the potential contamination pathways identified in the first part of the RI. Tasks to be performed during the RI site investigation are outlined in Table 1.

The RI may take from 12 to 18 months to complete. After the RI is complete, Uniroyal and WMI will submit an RI report to U.S. EPA detailing the findings of the RI. An endangerment assessment, which evaluates the level of risk to public health and the environment posed by the site, will be completed shortly thereafter.

A set of alternatives to resolve potential contamination problems at and near the Hagen Farm site will be developed based on the findings of the RI. These remedial alternatives will be explained in a feasibility study (FS) report which will detail the characteristics and costs of each alternative. U.S. EPA and WDNR will select an alternative which is environmentally sound and cost effective. At that time, interested groups and individuals will have an opportunity to comment on the U.S. EPA recommended alternative, called the proposed plan, and the other alternatives in the FS. U.S. EPA will review and evaluate the comments and then select a final remedy for the site.

THE SUPERFUND PROCESS



The Comprehensive Environmental Response Compensation and Liability Act (CERCLA, also known as Superfund) was enacted by Congress in December 1980. The new law established a program to investigate and clean up actual and potential releases of hazardous substances at sites throughout the United States. In 1986, Congress reauthorized the law under the Superfund Amendments and Reauthorization Act (SARA), and increased the size of the fund from $1.6 billion to $8.5 billion. U.S. EPA administers the Superfund program in cooperation with individual states.

The Superfund process involves several steps after a potential site is initially identified (1). After a preliminary inspection of the site is conducted by the U.S. EPA or state agency, the site is evaluated for its potential impact on human health and the environment (2). If the site poses a serious enough threat to the community, it is placed on the National Priorities List (NPL), a roster of the nation's worst hazardous waste sites (3).

Sometime after the site is placed on the NPL, U.S. EPA plans and conducts a remedial investigation and feasibility study (RI/FS) (4). The RI is a long term study to identify the nature and extent of contamination at the site. The FS evaluates remedial alternatives for site conditions.

If potentially responsible parties (PRPs) can be identified and are willing to cooperate with U.S. EPA, one or more of the PRPs may conduct the RI/FS. All work conducted by the PRPs is closely monitored by state and federal agencies.

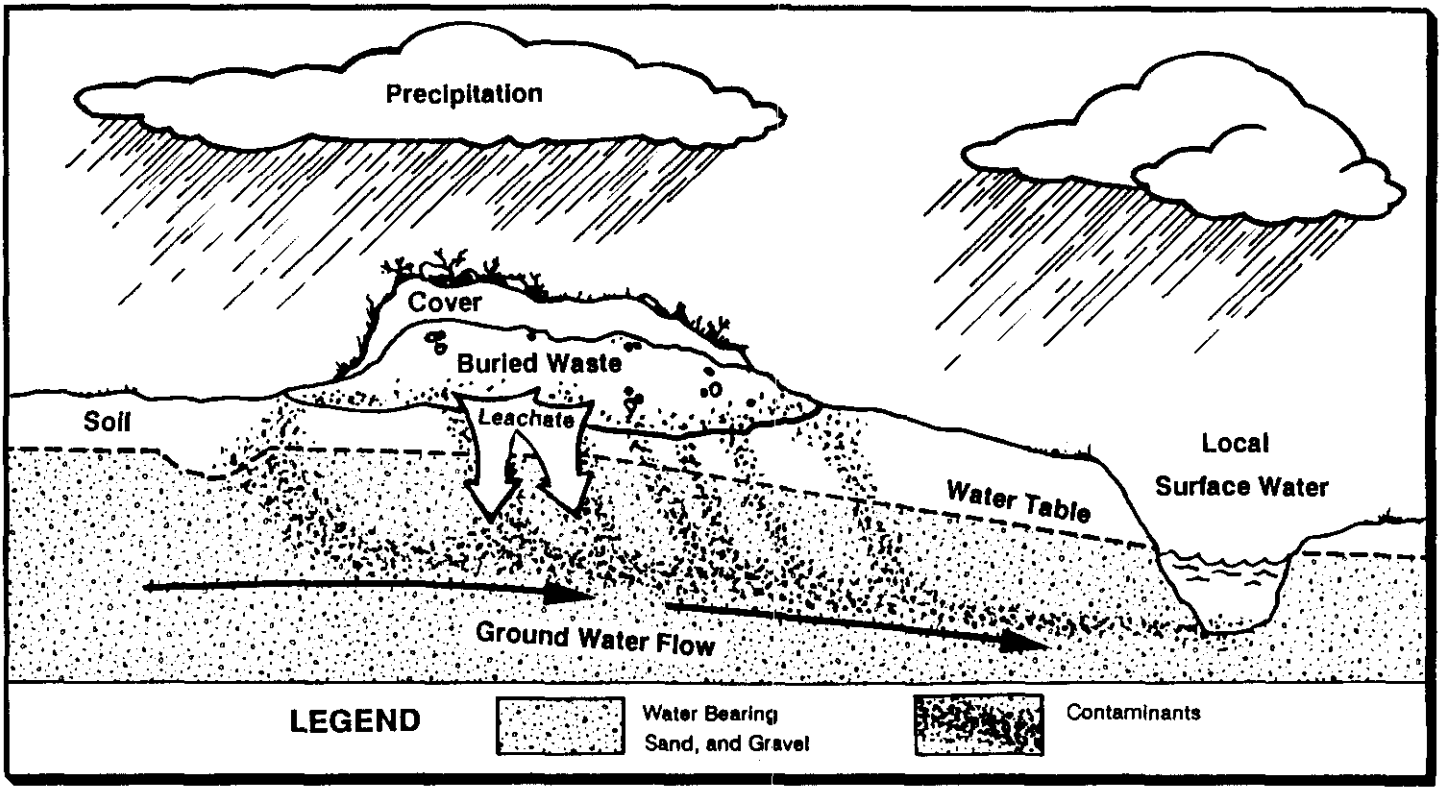
After the public has had an opportunity to comment on the alternatives presented in the FS, U.S. EPA chooses the most appropriate alternative as a final remedy for the site. The chosen remedy is then designed and implemented (5).

At each site where a long term investigation and clean up takes place, U.S. EPA prepares a community relations plan to provide information about community concerns and present a plan to enhance communication between U.S. EPA and the local community.

At any time during this process, U.S. EPA may conduct an emergency response action if the site becomes an immediate threat to public health or the environment.

Site Related Documents Are Available Repository Or From the U.S. EPA
230 South Dearborn Street Chicago, IL 60604

Pathways of Contamination



There are several potential pathways, or routes, by which an uncontrolled hazardous waste site may cause contamination problems in the surrounding community. The most common routes, shown in the illustration above, are described below.

AIR

Air may provide a route of contamination depending on factors such as wind speed and direction, humidity, and temperature. Tiny particles of hazardous substances may be dispersed as dust into the air and carried by the wind. Many volatile liquids form a gas or vapor when they evaporate in the air. Some airborne chemicals are harmful if they are inhaled or come in contact with the body.

The greatest risk is posed to individuals who are in locations of high concentrations of airborne contaminants. On-site workers are required to wear special equipment to minimize the risk of contact. The concentration of airborne contaminants decreases as they are dispersed over a wide area.

SURFACE WATER

There are several ways in which hazardous wastes may enter surface waters such as ponds, rivers or lakes. For example, when rain water runs down the sides of an elevated site (like the one in the illustration) toward the ground, contaminants present at the site may be dissolved or suspended in the runoff. The runoff drains away from the site toward an existing body of water, such as a nearby river. Once in the river, contaminants can be carried downstream toward nearby communities, which may use the river for recreation, food or a safe drinking water resource. If fish or other aquatic life consume contaminated water, the contaminants may be introduced into the food chain.

GROUND WATER

Many hazardous waste sites were in operation long before most people understood the interaction between substances present on the surface and ground water. Many hazardous waste sites are located directly above ground water sources. Therefore, contamination of ground-water supplies near a site is often a major concern.

Ground water is formed through a long process. Precipitation, such as rain, reaches the ground and then slowly moves through the soil, sand, gravel and/or rock into small cracks and crevices beneath the ground surface. These rock or sand and gravel formations are called aquifers. During a process which can take many years, the water is filtered as it moves through the aquifer, eventually providing a water source which is naturally pure. This water may then be withdrawn by wells for use as drinking water. An aquifer, and the ground water it contains, often covers a large geographic area.

Substances may be picked up (leached) by water or other liquid as it moves through and about the wastes at the site. This contaminated liquid, called leachate, may travel through the waste and be carried along as the waste moves through the soil into the aquifer. This process can go on for years. Water drawn from the aquifer through a well may also contain these substances. If an aquifer becomes contaminated, it is a very difficult, lengthy and expensive task to resolve the potential problems related to it. Waste facilities constructed according to current federal and state standards contain multiple safeguards to minimize the possibility of ground-water contamination.

Continued from page 1

WDNR records indicate that the City of Stoughton and other parties also disposed of waste at the site. WDNR estimates that as many as 5,000 drums of waste material have been disposed of at the site. The site was closed in 1966. In about 1970, it was sold to Orrin Hagen who used the property to graze sheep and to farm.

In October 1980, WDNR received a complaint from a resident alleging that the site had been used for the disposal of drummed wastes during the 1960s. WDNR investigated the site and observed that the land (which was then in use as a sheep pasture) contained outcroppings of solid vinyl and other evidence of past disposal practices. The site owner also reported to WDNR that there had been a large fire in the pasture shortly after he purchased the property in 1970.

Nearby residential wells were sampled by WDNR in November 1980. Traces of acetone and butyl acetate, two **volatile organic compounds** (VOCs), were detected in two private wells. The wells were re-sampled in December, along with an on-site well. On this occasion, no contamination was detected in the residential wells. However, VOCs including 1,2-dichloroethylene, acetone, and butyl acetate were detected in the on-site well.

In March 1982, WDNR began a program of quarterly well monitoring at and near the site. Traces of 1,2-dichloroethylene and other compounds were detected in on-site wells and nearby residential wells during 1981 and 1982.

The site owner discovered a barrel containing liquid on the property during 1981. Chemical analyses of the barrel contents indicated the presence of several VOCs.

In November 1982, Uniroyal conducted a **hydrogeologic study** to evaluate **ground-water** quality at and near the site. Xylene, ethyl benzene, toluene, tetrahydrofuran and chlorobenzene were detected in some ground-water samples collected from on and off site. The highest levels were found in samples from locations closest to the disposal areas. However, according to the report, only the on-site well closest to the disposal area contained levels of contaminants in excess of established drinking water standards.

Additional hydrogeologic studies were conducted by WMI in 1982, and the United States Geological Survey (USGS) in 1983. The USGS study, in particular, helped to further define the direction and rate of ground-water flow near the site in the shallow **aquifer** and to determine the types of contaminants present. The report indicated that water flowed away from the site, toward the west, south and east. Benzene, chlorobenzene, tetrahydrofuran and xylene were detected in some on-site monitoring wells.

WMI, the site operator, and Uniroyal, a generator of hazardous wastes disposed of at the site, were identified by U.S. EPA as parties potentially responsible for contamination problems at the Hagen Farm site.

TECHNICAL ASSISTANCE GRANTS AVAILABLE

U.S. EPA recently introduced a new program which enables groups of interested citizens to obtain assistance in interpreting and understanding data generated during the remedial process. The Technical Assistance Grants, or TAGs provide up to $50,000 to community groups wishing to hire consultants to interpret sampling results, reports and other documents. Thirty-five percent of the requested funding amount must be matched by the group. For example, if $50,000 were requested, the group must provide an additional $17,500, or obtain it from some other source. The matching funds may be paid in in-kind services and may originate from any source. TAGs cannot be used to duplicate field work or lab work. They may be used only to understand or interpret existing documents and activities conducted at the site.

Municipalities or other governmental agencies are not eligible to receive TAGs. However, government officials may belong to a community group requesting a TAG.

The Hagen Farm site is at an early stage in the remedial process. A TAG may be more useful to local residents several months from now. However, the process for obtaining a TAG is fairly complex, and the early stage may be a good time to learn more about the program. More information about TAG is available in the Hagen Farm information notebook (repository) or from U.S. EPA Region 5 in Chicago. The location of the information repository and a toll-free phone number for U.S. EPA are listed on the back page under "For more information."

U.S. EPA TO HOLD PUBLIC MEETING

The U.S. EPA is sponsoring a public meeting to discuss the Hagen Farm site RI/FS and the Superfund program. U.S. EPA and WDNR representatives will be present to respond to questions about the site.

DATE: Thursday, July 14, 1988
TIME: 8:00 P.M.
PLACE: Dunkirk Town Hall
County Trunk Highway N
Near Stoughton, Wisconsin
(608) 873-6969

MAILING LIST

If you wish to be placed on the Hagen Farm site mailing list, please complete this form, detach and mail to:

Susan Pastor (5PA-14)
U.S. Environmental Protection Agency
Region 5
Office of Public Affairs
230 South Dearborn Street
Chicago, IL 60604

NAME _____
ADDRESS _____
CITY _____
STATE _____ **ZIP** _____
AFFILIATION _____
PHONE _____

FOR MORE INFORMATION

If you would like additional information about the remedial investigation or the Superfund program, you may consult the various documents that have been prepared for the site. Copies of applicable laws and other site-related documents are available in an information notebook called a repository. The location of the repository is listed below. You may also contact U.S. EPA directly at its toll-free number.

INFORMATION REPOSITORY

Klongland Realty
650 Van Buren
Stoughton, WI
(608) 873-7241
(See Tim Klongland, Town Clerk)

U.S. EPA CONTACTS

Susan Pastor
Community Relations Coordinator
(312) 353-1325

Susan Sylvester
Remedial Project Manager
(312) 353-6500

U.S. EPA - REGION 5
230 South Dearborn
Chicago, IL 60604
Toll Free Number: 800-621-8431
9:00 a.m. - 4:30 p.m.

GLOSSARY

Aquifer -- A formation of rock or sand and gravel beneath the ground surface which accumulates water within cracks and/or pore spaces. When water accumulates in sufficient quantity, the aquifer can be tapped by wells and the water contained in the aquifer can be used for drinking.

Consent Order -- A legal agreement, usually signed voluntarily by potentially responsible parties, U.S. EPA and state officials, which outlines the way in which specified remedial activities will be carried out by parties to the agreement.

Geophysical Study -- A geophysical study examines the physical properties of a specified location. Characteristics of soil and other surface and below surface structures are identified. Sensitive electronic and electromagnetic instruments are often used in geophysical studies.

Ground Water -- Ground water is formed when rain or other precipitation soaks through sand, gravel or rock and fills small openings or crevices beneath the ground surface. The rock, or sand and gravel formations are called aquifers. When water accumulates in sufficient quantity it can provide a resource for drinking water.

Hydrogeologic Study -- A hydrogeologic study examines the nature and distribution of aquifers in a geologic system. Part of a hydrogeologic study includes identifying the direction and rate of ground-water flow within the aquifers; determining the natural and chemical characteristics of ground water and geological structures below ground surface; and studying the relationship between the various rock and soil layers in the area.

Leachate -- A common term when talking about landfills. Leachate is a liquid that has percolated through wastes and contains components of these wastes. For instance, water may mix with leaking wastes inside a landfill, become contaminated, and then seep into the water table.

Monitoring Wells -- Wells drilled specifically for observation purposes, and placed at specific locations on a site where ground water can be sampled at selected depths. The samples are then studied to determine such things as the direction in which ground water flows and the types and amounts of contaminants present.

Volatile Organic Compound (VOC) -- A group of organic compounds that have a tendency to evaporate when exposed to air. Due to this tendency to evaporate, VOCs disappear more rapidly from surface water than ground water. Since ground water does not usually come in contact with air, VOCs are not easily released and can be present in drinking water. VOCs may pose a potential threat to human health. Some VOCs are believed to cause cancer in humans. Examples of VOCs include xylene, toluene, trichloroethylene and 1,2-dichloroethane.

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